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ABOVE: Dr. Novice G. Fawcett, President of The Ohio State University, delivers the opening address at the Conference for Educational Television in Washington, D. C., May 26-28, 1958. The conference was held under the auspices of the U. S. Office of Education, in cooperation with the NAEB. Left to right in the picture are Dr. Fawcett, Dr. William G. Carr, Executive Secretary of the National Education Association, and Homer D. Babbidge, representing the then Secretary of Health, Education and Welfare, Marion B. Folsom. For Dr. Fawcett's address,

ON COVER: Professor James A. Schwalbach of the University of Wisconsin's Agricultural Extension Service and Division of Radio-Television Education broadcasts a Wisconsin School of the Air program, "Let's Draw." (See "Educational Radio's Role,"

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Educational Radio's Role

Radio Still Has An Important Part To Play In Education

By Mr. Harold B. McCarty

Director, Wisconsin State Broadcasting Service. From an address before the Conference on Educational Television, Washington, D. C., May 26, 1958.

Almost forty years ago, at about the same time that I was bounding around on the vaudeville stages of this country in a pair of white flannel slacks with a tennis racket in my hand, uttering some trivialities in a skit called "Moonlight Madness," the University of Wisconsin was beginning to use wireless for serious purposes. It was in 1919 that scheduled programming began. This gives the University the right, I believe, to claim having the oldest station in the country.

I joined the activity about ten years later, and since then it has grown to the point where we now operate a network of ten radio stations: two AM stations of 5,000 watts each, and eight FM stations, most of them of 10 kilowatt transmitter power, 50 to 60 thousand watts effective radiated power. In addition, we operate one television station and one television laboratory. The output in radio is about eighty-five hours a week, in a variety of subject matter fields for the complete range of listeners. The output in television is currently about fifteen hours a week.

All of these activities are

thoroughly integrated, combined under a Division of Radio-Television Education, with joint administrative and program staffs. My colleague, Bill Harley, is Program Director of both radio and television, with special responsibilities currently in television operations, but at the same time with responsibility for both.

So our activities, I believe, are not subject in any sense to internal competitions or conflicts or jealousies. I believe we are able to look at both instruments with complete objectivity; and if invited, I would do a dissertation on the promise of educational television and do it with enthusiasm.

I think I could give examples of what the engineers call "proof of performance," though I would perhaps not be so starry-eyed as some of the advocates and enthusiasts, because I've been engaged in this long enough to realize that whatever we do takes time.

You may recall the Channel Hearings in 1952, when the question was constantly put to those educators testifying: "How much time do you think would be required?" And the Commissioners, you will recall, were thinking in terms of one year, two years, three years; someone, perhaps, dared to think in terms of reserving these channels for five years before they would be thrown open to competitive applications.

And I was asked, I suppose it was by Frieda Hennock, who did most of the questioning, "How long do you think it will take?" I said, "At least a generation." And when I got back home, our Superintendent of Schools in the city of Madison, said, "Aren't you a little optimistic, Mac?" I think I would have said, "It takes at least fifty years to accomplish any major change in education."

We've been under a strange and, I think, damaging compulsion to show results in a hurry. Whatever we do takes time; so I cannot be as optimistic about television and all that it can do for us as are some of its advocates.

Radio was subjected to the same enthusiasm, the same predictions. I look at a clipping published in a journal in 1922, with a picture, a map of the United States, and lines radiating out from Madison to the points from which listener responses had been received. And this was almost nation-wide in its extent, and it led the writer of the article to proclaim, "UW to provide university education for entire Mississippi Valley." And in this same article, there was a quotation from some observer (this was 1922, remember) saying, "The wireless will bring to the American home the finest in education and culture. The mediocre will be banished from pursuit, press, and classroom."

And you know what the British thought radio would do. They emblazoned it on the west door of Broadcasting House in London: "And Nation shall speak peace unto

Professor Warren B. Woolridge, instructor in music and radio-television education at the University of Wisconsin, broadcasts a Wisconsin School of the Air program, "Let's Sing"

Nation." These were some of the promises radio gave in the beginning, and we need to weigh these in the light of the time it has taken to realize just a few of them, and to think that perhaps the same kind of tolerance and patience will be required in our appraisal of television.

In the light of all this, what do we conceive to be the role of educational radio? Well, let me illustrate with a few specific examples of our current programming. This spring we completed the twenty-seventh year of broadcasting to schools in Wisconsin. Eleven programs a week were being offered in such fields as music, art, nature, books, recreational reading, creative writing, and social studies. As nearly as we can determine, our enrolled audience of children in the state was approximately 250,000 regular listeners weekly, hearing on an average of two and a half to three programs a week, with a total of more than 650,000 course enrollments.

With what effect? A heartwarming one in many, many areas. Let me give you a few examples:

One hundred thousand children enrolled in creative art, sending in thousands upon thousands of examples every year, indicating the progress of creative art in Wisconsin, declared by the supervising teachers who travel the state to be a revolution in this field.

In music, some seventy thousand enrollees, who come together in county seats, on call, to demonstrate what they've learned during the year. And they give demonstrations which are really spine-tingling.

Forty-three thousand children enrolled for the series entitled, "When Men Are Free" (honored at the Ohio Institute this year by a First Award, which we greatly appreciate): a program giving children some notion of the basic principles of our American democracy, which makes men free.

In the adult field, four college courses direct from the classroom; one a freshman forum discussion-lecture course on the "Frontiers of Space"; another more advanced course on "Contemporary Trends: a Broader View of America; Problems Facing Us Today"; another on the "Civilization of India"; a fourth on "The Social and Intellectual History of Russia." It sounds formidable but actually it's fascinating. Thousands of people throughout the state are finding it so. How do we know? Our adult-listener mail averages about 1,000 letters a month. These include requests for additional material, comments on the programs, personal letters written directly to the broadcasters — heartwarming testimonals of the writers' gratitude.

In the past three months, some 1,200 persons have written, requesting that their names be added to our mailing list; this is accomplished without promotion. These are people who accidentally hear about the availability of the bulletin.

Yesterday, in Milwaukee, there was held a Board Meeting of the organization of more than 1,000 listeners who have formed themselves into a group ready for instant mobilization in case of threat to their radio service. They call themselves "The State Radio Listeners, Incorporated." This group was formed during the 1955 legislature, when there was a serious threat to the broadcasting service. It maintains its organization throughout the year, not merely during legislative sessions, and meets regularly once each month. A signal would call them into action; but a signal wouldn't be

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TV And Higher Education

Educational Television Calls For A New Look At The College Curriculum

By **Dr. Novice G. Fawcett**

President, The Ohio State University. From an address before the Conference on Educational Television.

I am not a specialist in broadcasting by radio or television. It has been my privilege, however, to be close to educational broadcasting both in the public schools and in my present position. Experience has taught me that one of the occupational hazards of the administrator is that too often he has no alternative but to rush from one emergency to the next without having the time to see clearly what is causing emergencies. Once we see clearly what needs to be done we can then work with others to develop an educational program which will not be thrown into confusion by well-meaning Sputnicians. (A Sputnician is an educational technician who sputters with regularity but who throws little light on any subject.)

Consequently, I will attempt here to emphasize educational issues, not techniques. If these issues can be brought into clear focus, then emergencies can be viewed in the light of our fundamental plans for schools and colleges. Someone has defined a college president as a man who dodges issues in a straightforward way. Most of the issues I shall discuss seem to me to be so big and so demanding that they cannot be dodged.

An issue is a point in question or dispute. Sometimes the issues of education—the questions and the disputes—deal with the ends of education, sometimes with the means. They cannot be neatly separated, since, as Emerson once noted, "The ends pre-exist in the means." Let us take note also of Thoreau's comment on the danger of "improved means to an unimproved end." Are not both the ends and the means of

education affected by educational broadcasting?

There is something both presumptuous and adventuresome in a conference like this. Some ten years or so after the birth of educational television, we are meeting here to talk about the present and future role of educational radio and television.

A rough parallel would be an assembly of teachers in 1458—500 years ago—in which there would be a discussion—perhaps with Gutenberg present—of the role that printing would play in the future. The group might well have looked at the so-called Gutenberg Bible, the first large book printed with movable type. We are, I might add, still talking seriously about the role reading ought to play in today's world.

As we learn how to use educational television, however, we are fortunate to have the history of print, photography, motion picture and radio to illuminate our path. Some of the roadblocks are already obvious, some of the false pathways which we might follow. To think intelligently about these newer media, we must ask what they can and cannot do in contrast with other ways of communicating. I believe that television is not just another teaching device but is a medium of communication of extraordinary power and versatility. Even the three-year-old child today learns to tell time sufficiently well to turn on his favorite "noise," and if you doubt the impact of the medium on his life, listen for a short time to his vocabulary. Persons more competent than I will discuss this problem at our conference. But the other problem—the noting of critical educational issues and the relevance of educational television to them—I assume is my task here. In discussing several of these issues, may I say that no effort has been made to list them in the order of their importance.

ISSUE No. 1. *What is educational television?*

Here we have the perennial dilemmas of defining what is education, what is entertainment—what is in the public interest, convenience, and necessity. Even after hearing many discussions on this topic, I am not qualified to construct an exact definition of educational television or radio.

To me, educational television suggests the planning and systematizing of experiences needed to build attitudes, skills, and concepts. The opportunistic does play a part in education and we can oversystematize, but we cannot do educational television on a catch-as-catch-can basis.

A second aspect of the definition has to do with imitation versus creativity. It might also be expressed as training versus education. Are students expected to imitate the model on the television screen and is the excellence of the program tested by the degree to which it can be neatly reproduced by viewers? This is the training

end of the scale and it emphasizes rote learning.

The Department of Agricultural Education at The Ohio State University has recently evaluated its curriculum as well as its teaching methods in the courses taken by students. Their general reaction to their curriculum has been strikingly favorable. However, in chapter 7 of the manuscript the authors say:

"Particularly vulnerable to severe criticism on the part of the alumni was the factual orientation of many courses. These graduates deplored the tedious reliance on rote memory as the major technique of imparting instruction in many of their courses. They desired a more analytical approach to their studies through practical problems, issues, and conditions. It was felt that the lecture method was abused. They recommended the use of a greater variety of teaching methods with the employment of practical laboratory applications, use of the University farms in connection with classroom instruction, and more field trips and demonstrations."[1]

This report challenged me to attempt my own definition of education as a back-drop for some additional remarks. I believe that education is a process which will condition the mind of an individual, when confronted with a question or issue, to call into play logical procedures, initiate a course of action, and solve as intelligently as possible the problem at hand.

Obviously in viewing television it is good to get exact imitations of the voice of the speaker of French; it is indeed good to know what the lecturer on physics said on the television screen. But this, it seems to me, is only the beginning of the educational process. The inescapable conclusion is that thoughtful, creative application must be the goal, if the mind is to be stretched more nearly to its potential. Too much teaching is merely word-deep; it has not been a real encounter. Television can go in one eye and out the other unless the content and the techniques employed really engage, involve, the learner.

What kind of tests do we give when we check on the teaching effectiveness of television—imitation or creation? Answering this query raises some imponderable questions. Do we check to see if the students have become involved, immersed in the subject, or are we satisfied to have the predetermined facts played back? If the latter is true, what will happen to creative learning?

A third aspect of a definition of education has to do with interest. I believe it was Aristotle who said that learning was accompanied by pain. Yet Horace, the poet, suggested that we "instruct with delight." Perhaps they are both right; perhaps both pain and pleasure may accompany learning but neither is the goal. They are the residues.

1. "A University Department Evaluates Its Curriculum" An unpublished manuscript for 1958 by the staff of the Department of Agriculture Education. Chapter 7, Page 119.

There is always a falsity in these neat dualisms of the how and the why, of pain and pleasure, training and education, involvement and spectatorship. It is said that the recent Westerns divide their characters into the good guys and the neurotics. Nevertheless in television we must ask whether we want to rely heavily on training and move in that direction, or whether we shall both imitate and innovate, moving always in the direction of education. Perhaps this is not an "either-or" situation; but a meaningful definition of education should provide us with some answers.

ISSUE No. 2. *The continuity of learning*

I wonder if we have all grasped the revolution that is going on in education and communication in our American society today. Seventy-five years ago, it was an unusual person who graduated from the eighth grade. A common graduating motto, "Out of school life into life's school," indicated that it was terminal education for many. Fifty years ago it was a real achievement to graduate from high school. Today, however, high school graduation is an expected goal and college graduation is common.

Increased education plus technological advance has increased sharply the availability and use of communication media. Today most families get a daily newspaper and nearly all have radio and television.

Increased education and accessibility to ideas through the mass media are producing a different kind of citizen, a different kind of parent, and are slowly producing a different kind of school and college.

New demands are already being reflected in teacher preparation. More and more young men and women are coming to college with mature tastes in music, in art, in literature, in an understanding of world affairs. Think of the work that is going forward in parent education through the PTA, in citizenship education through the League of Women Voters, in international education through international exchange of specialists and students. The home and the community can increasingly re-enforce the work of the school and, with the use of the television medium, might appropriately begin to recapture some of the responsibilities that the schools have been forced to assume in the past.

Some teachers have said, for example, that their children are now much better prepared to understand Lincoln and Washington, because in the month of February they see television programs at home dealing with these great presidents.

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Reassuring The Reluctant

Why Teachers Hesitate To Become Involved In Producing Or Even Using Television Programs

By **Wanda B. Mitchell**

Evanston Township High School, Illinois. An address before the Conference on Educational Television.

If I am to discuss the problems of involving teachers in television program production and utilization, of this new medium of communication, I must ask you to accept certain assumptions upon which my remarks will be predicated:

First, that students can learn and teachers can teach by television.

Second, that the term "new medium" includes broadcast television, closed circuit television, instructional television, televised education, and educational television.

Third, that Edgar Dale will have included in his twenty minutes all the educational problems except the teacher.

Fourth, that the teacher is the most complex of all the problems and must therefore be dealt with separately.

Fifth, that my assignment is to *present*, not *solve*, the problem.

Furthermore, since we come from different sides of the control room, we may save time by defining the terms. "Problem" needs no explanation, for that is television's frame of reference. "Involve," according to Roget's *Thesaurus*, means "implicate, complicate, drag into, embrace, shroud, roll up in, dislocate"—all appropriate terms for the teacher *involved* in television. Mr. Roget's synonyms for "utilize" have a rather ominous connotation: "dispose of, consume, exercise, practice, lay one's hands on, render useful, move, make shift with, fall back upon."

Having established the scene with that wide angle shot of the territory to be covered, let's zoom in

on a close-up of the teacher to be involved in program production. Why is he or she such a problem? Why are teachers reluctant to utilize this new medium?

Three years of research have made obvious to me six possible causes. First there is confusion—confusion among school administrators, teachers, television producers, parents, taxpayers, and students as to the philosophy and purpose of televising instruction, either formally or informally. Alexander Pope must have foreseen the problems of educational television when he said, "A little knowledge is a dangerous thing." An intelligent, cooperative school administrator decides to have the PTA buy a television set for the fourth grade the room nearest the door, where most of the visitors stop. The reluctant teacher may turn on the set whenever she's too tired to do anything else. The eager television producer schedules a series of lectures by a popular college professor whom the students describe as a whizz and whose colleagues describe him as academically unsound. The progressive parent tunes in for the morning French lesson and thinks school is all play. Each is confused as to the purpose of televising education, and each is mistaking one part for the whole.

There is further confusion as to the role of the teacher in the learning process. In the elementary school the *teacher* directs activity; in the secondary school the *pupil* assumes more responsibility for directing his own activity under the guidance of the teacher. Visit an elementary school room, and you will see that the focus of interest is on students and teacher. Visit a high school class, and you will see the focus of interest on the students with the teacher in the background. Visit the average college classroom, and you will see that once again interest is focused on the teacher or lecturer. These variations in the role of the teacher contribute to the confusion when we try to involve teachers in planning and utilizing television programs.

Further confusion results when we try to use mass communication to instruct pupils with varying capacities. The June '57 release of the Association of Colleges for Teachers Education states: "The use of any teaching technique or instructional aid is valid only in terms of the purposes of the instruction and the capability of the learner." Perhaps educational television is meant for the mass of average students, thus freeing the regular classroom teacher to challenge the brilliant and train the dullard.

No less confusing is the attempt to develop a single format that will present lessons or programs with differing aims. When the desired outcome is mastery of a skill, the program format may have to differ radically from that of a lesson to develop appreciation. Everyone who plans or participates must be aware of these differences if we

are to avoid confusion.

Let me cite three specific examples of the existing confusion:

1. The beer commercial
2. The showing of film
3. The Elks Club.

The second problem which must be met if teachers are to be satisfactorily involved in educational television is fear: fear of production techniques, fear of the unknown, fear of public criticism of our teaching methods, fear of losing status, fear of discovering that we are inadequate, fear of failure. To you these fears are groundless, but many good teachers look upon television with the indecision of a Hamlet:

> TV or not TV: that is the question,
> Whether 'tis nobler in the mind to suffer
> The pressures of increasing enrollments
> Or to take arms against a sea of troubles
> And by electronics end them.
> To grunt and sweat under a weary life,
> And make us rather bear those ills we have
> Than fly to others that we know not of.

Suppose we decide to "fly to others that we know not of" and agree to do a series for television. We resolve to conquer all these fears by thorough preparation. We go to the authorities. In Levenson and Stasheff's *Teaching Through Radio and Television* we read these comforting words in the preface:

"Television, still in its experimental stage (1945-1952) educationally, offers possibilities as a tool to fire the imagination of our teachers and educators. They have only to understand their tool, imagine its possibilities and go to work."

Next we consult a booklet, "How to Be a Good Television Teacher." Here we find this helpful advice: "Be natural. Be relaxed. Be sincere. Be direct. Be convincing. Be spontaneous. Be prepared."

A bit dismayed, we decide to return to a teachers college and learn there the techniques for teaching by television. Recently the subcommittee on Television and Teacher Education of the A.A.C.T.E. conducted a survey on closed circuit television among its 411 member institutions. Three hundred and sixty-one responses were received. Seventy percent are not using or planning to use closed circuit television. Six percent are studying its possible use; ten percent are planning to use CCTV; ten percent are currently utilizing CCTV installations.

We look elsewhere for our training and go to a television producer. As teachers we timidly place ourselves in the hands of this paragon of knowledge, because, as Huston Smith stated in "Teaching

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Editorial

Teach Parents About Teaching Children

Writing in the July 19, 1958 issue of the *Saturday Review*, Robert Lewis Shayon called attention to a unique experiment conducted the past summer over Station KETA-TV by the Oklahoma City Public Schools. This experiment consisted of the consecutive presentation every week-day morning for six weeks of four thirty-minute telecasts aimed at third and fourth grade youngsters and their parents. The subjects offered were Reading Skill Improvement, and Conversational French, Spanish, and Russian.

Mr. Shayon was intrigued by the fact that the first three subjects were taught by teachers experienced in public-school work, whereas the fourth was by a professor of Russian, educated in the Soviet Union and at the University of California for a strictly academic career. Thus the viewers were given a true "object lesson." Youngsters and parents alike had an opportunity to compare the "child-centered" versus the "subject-centered" techniques of teaching.

Unfortunately no attempt was made by those responsible for the telecasts to measure the audience or to compare the effectiveness of the various courses. Mr. Shayon viewed the programs and did note that in his own case he lost interest in the Russian professor's presentation after the first nine minutes, whereas the teacher of the Reading Skill Improvement program held his attention to the very end. She accomplished this through extremely skillful motivation, such as only master teachers can provide when they understand how to use children's interests in teaching ma-

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What Is The FCC?

Who Makes Up This Important Commission And What It Does

In Washington, D. C., just two blocks from the White House, between Twelfth and Thirteenth Streets on historic Pennsylvania Avenue, stands the "New Post Office Building." This name is not appropriate now because the building is no longer new. Its construction was completed in 1934 during the early Rooseveltian rah! rah! days to house the offices of the Post Office Department.

The early New Deal political wizard, James Farley, was the first Postmaster General to occupy the building. After providing attractive and commodious offices for himself and staff, he had space left over which he agreed to make available to the new Federal Communications Commission which had just been created.

The FCC officially began business in this building in July, 1934, and its principal offices have continued to be located there ever since. Expanding personnel and operations have necessitated the establishment of additional offices in other buildings nearby, but Commission meetings and the bulk of its work are still carried on in the hour-glass-shaped structure that Farley built with PWA money in the early thirties.

By **Walter B. Emery**

Professor of Communications Law, Michigan State University.

To reach the office of the FCC Chairman, you can take one of the elevators at the front of the building on Pennsylvania Avenue, and rise to the sixth floor, where you get off and proceed to room 6107 near the rear of the building. There is nothing pretentious about the suite of three rooms occupied by the Chairman and his staff. The space is comparatively small and the

furnishings are modest. There is nothing particularly striking about the surroundings, except that as a visitor you will very likely find your attention attracted to pictures of the ten former chairmen which hang around the walls of the reception room.

If you step close enough, you can read under each picture the small print which tells how long each man served as Chairman. You will note that while two of them survived more than four years of the administrative ordeal, the average term for the ten men was only about two years each.

And what has happened to them since they left the Commission? Four are deceased. Three have lucrative law practices. Two hold important administrative positions in the broadcasting industry. One is retired; and one was relieved of the Chairmanship after serving in the position for one year, but still holds membership on the Commission.

The Present Chairman

The present Chairman is John Charles Doerfer. He was appointed to the Commission and assumed office on April 15, 1953. He was designated Chairman when George Carlton McConnaughey retired from the Commission to enter the practice of law in Washington, D. C., on June 30, 1957.

Mr. Doerfer is a Republican from Wisconsin. His educational background includes a B.A. degree from the University of Wisconsin and a J.D. in law, *cum laude*, from Marquette University. His professional experience before coming to the FCC included service as city attorney of West Allis, Wisconsin, and as a member and chairman of the Wisconsin Public Service Commission. His present FCC term will expire June 30, 1961.

As Chairman, Mr. Doerfer is the chief executive officer of the Commission. It is his duty to preside at all meetings and "generally to coordinate and organize" its work so as to "promote prompt and efficient disposition of all matters" within its jurisdiction.* It also is his duty to represent the Commission in all matters relating to legislation, and in conferences or communications with other governmental officers and agencies.

In case of vacancy in his office, or his absence or inability to serve, the Commission may temporarily designate one of its members to act as Chairman.

The Other Commissioners

A short distance from Mr. Doerfer's office on the sixth and seventh floors of the Post Office Building are the offices of the six other FCC commissioners. Their predecessors, in addition to the former members who served as Chair-

* Section 5 (a), Communications Act of 1934, as amended.

men, number fifteen. Of these departed ones, five are deceased one is an educator, six are practicing lawyers, two are consulting engineers, and one is in business.

Those who presently hold membership on the Commission have a variety of backgrounds. *Rosel Herschel Hyde* is a Republican from Idaho. His educational training includes study at Utah Agricultural College and B.A. and LL.B. degrees from George Washington University. He has been in government service since 1924. Prior to his appointment as an FCC commissioner in 1946, he served successively as attorney for the Federal Radio Commission, and attorney, Examiner, Assistant General Counsel and General Counsel for the FCC. Following the retirement of Paul Atlee Walker on June 30, 1953, he served as Chairman for one year. His present term will expire June 30, 1959.

Robert Taylor Bartley is a Democrat from Texas. He was appointed to the Commission March 6, 1952, coming directly from Capitol Hill, where he was serving as Administrative Assistant to the Speaker of the House, Sam Rayburn.

Following his college work at Southern Methodist University, he served on the research and investigative staff of the House Committee on Interstate and Foreign Commerce, and later held staff appointments at the FCC and the Securities and Exchange Commission. Subsequently, he became Vice-President of the Yankee Network, Inc., and before going to Capitol Hill was with the National Association of Broadcasters for five years. His term ends June 30, 1965.

Robert E. Lee is a Republican residing in the District of Columbia. He is the youngest member of the Commission and his present term expires June 30, 1960. Prior to his appointment to the Commission he did important administrative work with the FBI, and for a time was Director of Surveys and Investigations for the House Committee on Appropriations.

He was born in Chicago and studied Commerce and Law at De Paul University. He had considerable experience with business concerns in an auditing capacity prior to his government career.

Eunis Augustus Macdonough Craven, a Democrat residing in Virginia, graduated as an engineer from the U. S. Naval Academy in the class of 1913. During his long naval career he specialized in radio communication.

He has participated in many important international conferences dealing with communications, and has had wide experience as a private engineering consultant. Like Rosel Hyde, he served on the staff of the old Federal Radio Commission. Later he was appointed Chief Engineer of the FCC, which post

he held until his original appointment as Commissioner in 1937.

In 1944, he left the Commission to become a private radio engineering consultant in Washington, D. C. He accepted a second appointment as Commissioner on July 2, 1956, and his present term runs to June 30, 1963.

Fred Ford, a Republican from West Virginia, graduated from West Virginia University law school. After a few years of private practice, he entered government service, and during the Second World War held a number of important administrative posts in Washington. He served as an attorney and Chief of the Hearing Division in the FCC for two or three years before going to the Justice Department in 1952. He was Assistant Deputy Attorney General when he was appointed to the Commission in July, 1957. His term will run to June 30, 1964.

Richard Alfred Mack, who recently resigned his position at the FCC, is a Democrat from Florida. His educational background includes training at the Northwestern Military and Naval Academy at Lake Geneva, Wisconsin, and B.S. and B.A. degrees from the University of Florida. Later he was credit manager for several business concerns and was Chairman of the Public Service Commission of Florida in 1955 when he was appointed a member of the FCC.

Almost immediately following Mr. Mack's resignation, President Eisenhower appointed *John Storrs Cross* to take his place. Mr. Cross was Assistant Chief of the Telecommunications Division of the State Department prior to becoming an FCC Commissioner. He received a degree in electrical engineering from Alabama Polytechnic Institute in 1923. He had a long distinguished career as a construction engineer, having held important positions with the South Carolina and Michigan state highway departments and the National Park Service. He was a communications officer in the Bureau of Naval Operations in Washington during the Second World War. He was with the State Department for twelve years and participated in many important international communications conferences. He is a Democrat, and his period of appointment includes the remainder of Mr. Mack's term, which extends to June 30, 1962.

Organization

The seven FCC commissioners function as a unit, determining basic policies and supervising all the activities of the agency. General sessions of the Commission for the transaction of business are required by law to be held at least once a month at its principal offices in Washington, D. C. Special meetings, however, may be held elsewhere in the United States if economy and convenience will be served.

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Our New Electronic Culture

The Role Of Mass Communications In Meeting Today's Problems

By **Dr. Marshall McLuhan**

Editor, Explorations, *University of Toronto. An address before the Conference on Educational Television.*

One obvious comment on my subject sub-title would be to say that today's problems are the new media. We are now mainly engaged as spectators in watching a 500-year-old educational-cultural achievement go down the drain. Somebody pulled the plug. A way of life based on the primacy of the printed word is dissolving in front of us. It may even prove to be the case that the entire tradition of phonetic writing, which is co-extensive with our Western world and the Graeco-Roman tradition, cannot sustain the electronic impact. Since the rise of literacy at least 2500 years ago, our world has not been subjected to information moved everywhere, instantly and simultaneously. Let us not fail to ponder that dimension of the instantaneous. For it is the shape and meaning of the spoken word. Today information moves around the clock and around the globe in that instantaneous, simultaneous pattern. And whereas such a pattern has previously been known only to small, closed, oral cultures, today it is the shape and experience of the global community of mankind. On what terms can the oral and the electronic coexist with the written and the consecutive?

Let me explain the relation between the oral and the electronic. When we hear, we hear from all directions at once. The radar screen gives this auditory and spherical dimension to the eye. So do the telegraph, the teletyper and television. All those media which give us access to all the cultures of the globe simultaneously are thus auditory in their effect upon our habits of attention and of thought. The eighteenth century considered that

it had made quite a discovery when Buffon proclaimed that "the style is the man." We should long ago have discovered that the medium is the message. The effect of reading is far more decisive than anything that gets said from moment to moment on the page. The page is not a conveyor belt for pots of message; it is not a consumer item so much as a producer of unique habit of mind and highly specialized attitudes to person and country, and to the nature of thought itself. This has been shown by analysis and illustrated in our history and in our institutions. For 500 years this form has been dominant, and all others, painting and music, poetry and movies, have willingly submitted to be molded by the printed form. As Henri Focillon put it in his classic work, *The Life of Forms:* "And yet within one given style that is homogeneous and faithful to its technical primacy the various arts live and move with perfect freedom. Each subordinate art seeks to come into agreement with the dominant art."

Print gave us the first exactly repeatable form of information. It did this by achieving the first mechanization of a complex handicraft—that of the scribe. It did this by the method of assembly-line production from movable types. From print we have directly our industrial establishment. That is why it is so crucial to the Soviets and to China today. From the reading of print we have the habits of individualism and initiative and of nationalism which are now rampant in the Soviet area and will inevitably modify the ideology which preceded their experiment with literacy.

Print gave us the techniques of doubt and of scientific arrest of motion and process. The real message of print, we are now learning, was subliminally pervasive and far more effective than any of the momentary messages of this or that book. Print was and is a huge operative cause within our culture. But if it is no longer the dominant technology, then not so much the skill as the motivation to master and exert that skill and its attendant attitudes can drain away.

Many would say that we have already plunged into the midst of such a crisis. Print and mechanical industry are no longer the dominant technology or business of our world. They can point to the fact that General Motors is a small operation compared to the electronic processing and packaging of information. The moving of information itself has become by far the largest industry in the world. The consuming of information electronically processed is by far the largest activity today. Globally mankind is now a community of conscious learning. And our industrial establishment is setting up higher and higher education programs for its top executives. For decision-making today calls for exact knowledge of almost universal group dynamics.

With adult education beginning

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NAEB Research Fact Sheets

Series I: The Effectiveness of Television as a Teaching Tool

43. A Foundation Looks at College Teaching by Television

By Alvin C. Eurich. In The Journal of Educational Sociology, May 1958, Vol. 31, No. 9, pp. 329-36.)

Any foundation concerned with the advancement of education has limited funds and presumably has available risk capital which public funds cannot provide. Such a foundation must ask:

1. What are the major problems for which its funds might be used to improve education?
2. To which of these problems should high priority be given?

At the college level perhaps the most critical problem is the growing teacher shortage and the diminishing number of Ph.D's turning to teaching as a profession. College and university administrators have tried to meet the faculty shortage by raising salaries, and have been forced to meet it by compromising with quality. Although the average faculty salary in institutions of higher learning is now $6,120, a 40% rise since 1947, this represents little progress in relation to the cost of living and other professional incomes. It is clear that the teacher shortage cannot be solved by traditional methods. Public concern with finding enough teachers for our colleges to continue their usual practices (a certain pupil-to-teacher ratio) should find a challenge in this statement by the late Charles Johnson, President of Fisk University: "By maintaining small classes during this period, the college merely makes it possible to transmit the mediocrity of the teacher in an intimate environment."

This evident deterioration of quality encourages the extensive use of the best teachers via a medi-

um reaching as large an audience as possible. Television is one way; teaching by television becomes of interest to a foundation only when it can be shown to be a useful and more efficient method of solving critical educational problems than past procedures.

The Fund for the Advancement of Education has embarked on a program of support for demonstrations of the potential uses of television in college teaching. Utilizing risk capital, the FAE has financed many ways to use television in teaching including the following:

1. Projects designed to extend the services of the ablest teachers in undergraduate instruction.

   A. Stephens College. One course offered over closed-circuit television to all students in the college by an outstanding teacher, with arrangements to make possible small group discussions immediately after the telecast of a lesson.

   B. New York University. Comparison of students taught by television in English and other subjects with students taught in regular classes.

   C. San Francisco State College. In-the-home instruction and college credit courses for high school youngsters.

   D. Pennsylvania State University. Extensive program for comparing learning of students taught over television with that of students in regular classes, and related testing for determining the appropriateness of television for different subjects, and for understanding attitudes and their possible relationship to achievement.

   E. Miami University (Oxford, Ohio). Similar comparisons and attempts to find out attitudes of students and faculty towards television instruction.

   F. Chicago City Junior College. A full junior college program offered over TV.

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NAEB Research Fact Sheets

Series I: The Effectiveness of Television as a Teaching Tool

44. A College English Teacher Looks at Television: Composition

By William E. Buckler. (In The Journal of Educational Sociology, May 1958, Vol. 31, No. 9, pp. 346-52.)

Part I of this article is a description of and report on an experiment in the use of closed-circuit television in the teaching of College Composition which was conducted at New York University during 1956-57. Part II touches upon a larger problem in the teaching of College Composition and "should be regarded merely as one teacher's thoughts on a complex matter."

Part I

College Composition at Washington Square College is a two-semester, six-point course in English fundamentals. All daytime Composition students participated in the experiment. Television sections throughout the year met twice a week for an hour and fifteen minutes with the first portion of each meeting devoted to a lecture-demonstration on television (approximately 45 minutes) and the remainder used for discussion, theme-writing, etc. All sections, television and control, followed the same syllabus.

The experiment was undertaken to determine how effectively a course in English fundamentals can be taught using closed circuit television in contrast to the conventional method of teaching the course.

Tests used were:

1. First term only—the Cooperative English Test, a two-hour objective test.
2. Second term only—the Cooperative English Test of Literary Comprehension, a forty-minute objective test.

3. Both terms—all students wrote three themes during the year which were used for evaluation.

The Findings.

1. In both television and control classes and for both semesters, students learned the subject-matter of English fundamentals with about equal effectiveness, with students at the low initial-knowledge (or ability) level making the greatest gains.
2. During the first semester, students in control classes on all initial-knowledge levels improved their test scores more than did students in television classes; however, the differences were not statistically significant.
3. During the second semester, students in television classes on all initial-knowledge levels improved their test scores more than did students in control classes; however, the differences were statistically significant only within the higher initial-knowledge group.
4. In theme writing, during the first semester, students at the low initial-ability level in control classes improved significantly more than did comparable students in the television classes; during the second semester, students at the high initial-ability level in control classes improved significantly more than did comparable students in the television classes.
5. Students in television classes did better in comparison to students in control classes during the second semester than they had done during the first semester. This fact suggests at least three possible conclusions:
   1. that students need at least a semester's experience to "get the hang of" learning from television instruction.
   2. that literature and literary criticism are more teachable through television than are the basic mechanics of composition.
   3. that for students in television classes during the first semester, the learning process was somewhat impeded by a too-energetic attention on the part of students and instructors alike, to the pros and cons of television itself as a medium of instruction.

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Series I: The Effectiveness of Television as a Teaching Tool

45. Does Lack of Contact with the Lecturer Handicap Televised Instruction?

By Hope Lunin Klapper. (In The Journal of Educational Sociology, May 1958, Vol. 31, No. 9, pp. 353-59.)

It is important to know whether it is essential that discussion groups of telecourses be led by the television lecturer himself. It is also important to determine whether a discussion group led by a non-lecturer would be in any way penalized by its lack of contact with the lecturer.

New York University, in 1956-57, gathered data which throw light on these problems primarily from two social science courses offered by closed-circuit television. One course, "Man's Cultural Heritage," was offered in the fall and spring semesters by the School of Education. The second course, "History of Civilization," was offered in the spring semester by the School of Commerce.

1. Course Content, Structure and Staff Structure.

"Man's Cultural Heritage" dealt with the nature of culture, social values and institutions, and the inter-relationships between the institutions and the value system of our society. Course materials emphasized ideas and relationships rather than facts or demonstrable techniques or methods. The first half of each class period consisted of a televised lecture, which usually lasted between 40 and 50 minutes. The rest of the two-hour period

was devoted to a class discussion of the lecture, led by a faculty member. Students in two discussion classes had no contact with any of the television lecturers. One discussion class met regularly with the major television lecturer, and one met regularly with an instructor who gave some of the television lectures. All four discussion classes heard four lectures by lecturers with whom they had no contact.

"History of Civilization" surveyed selected areas in the history of civilized man, beginning with the Greek period and ending with contemporary events. Students were divided into six faculty-led classes, which met simultaneously for two-hour periods twice weekly. Each class session began with a televised lecture of roughly 55 minutes. The rest of the period was devoted to conventional instruction, with the instructor supplementing the lecture. Four classes had no contact with the television lecturers; one class was taught by the major lecturer; and one class was taught by an instructor who appeared on some of the telecasts.

2. Results.

1. "Man's Cultural Heritage" was taught effectively via televised lectures followed by traditional discussion sections, even when the discussion section was not led by a television lecturer.
2. The most consistently effective instructor was one who appeared on no telecasts.
3. The lack of contact with the lecturers did not preclude or diminish favorable student attitudes toward televised instruction.
4. The class most consistently and intensively favorable to televised instruction was that of the instructor who never appeared on television.
5. Both major television lecturers commented on the unimportance of their leading a discussion group. Both felt the contact with the students did not really help them to lecture more efficiently. Further, both lecturers felt that having to lead a discussion section directly after the lecture was actually undesirable.

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Series I: The Effectiveness of Television as a Teaching Tool

46. The Application of Television and Kinescope Recordings to Reduce Instructor and Student Training Time and Training Costs

By Joseph H. Kanner, William A. Mindak, Stanford Katz. (Released by the Army Pictorial Service Division, Washington 25, D. C., June 1, 1958. 35 pages.)

This study is part of a series conducted at Fort Gordon, Georgia, prepared under the joint efforts of the Audio-Visual Applications Office, the Army Pictorial Service Division and the Television Division, Army Pictorial Center.

The first study (see *NAEB Journal*, April 1958) was designed to evaluate the effects of "intensive television teaching." The second study, described in this report, has the following objectives:

1. Reduction in training time of an existing 38-hour block of conventional instruction.
2. Rapid training of new television instructors.
3. The employment of television recordings for more extensive segments of training.
4. Economies in preparation and use of television training aids.
5. Development of guidelines for preparing effective television presentations.

The study was divided into three phases:

1. Phase I—the development and testing of a 16-hour television version of the 38-hour block of conventional instruction, using experienced classroom instructors.
2. Phase II—two inexperienced instructors were trained to teach the 16-hour television course.
3. The 16 hours of television instruction were kinescoped and used to teach groups of trainees.

Comparisons were then made among the three teaching methods. These comparisons were based on written tests given immediately after instruction.

Results:

1. Trainee learning and retention from the 38 hours of conventional or television instruction were superior to that achieved from the 16-hour shortened block of television instruction.
2. There were no significant differences in the number of trainees failing to complete the course, whether receiving 38 or 16 hours of instruction.
3. High aptitude trainees learned as well from 16 hours of television instruction as did low aptitude personnel from 38 hours of classroom or television instruction.
4. Rapidly trained but inexperienced instructors were as effective as experienced instructors in teaching 16 hours of television instruction.
5. Trainee learning from 16 hours of kinescope recorded instruction was as effective as from 16 hours of "live" television instruction.
6. There was no difference in trainee retention of learning when the 16 hours were taught over television by experienced or inexperienced instructors, or by kinescope recordings.
7. There were indications of important savings in training aids and teaching costs through the use of television.

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Series VI: Impact

9. Television Effects: A Summary of the Literature and Proposed General Theory

By Lionel C. Barrow, Jr. and Bruce H. Westley. (University of Wisconsin Television Laboratory, 600 N. Park St., Madison, Wisconsin, Research Bulletin No. 9, May 1958. 184 pages, bibliography.)

On Mar. 12, 1956, Malcolm S. MacLean Jr., then research coordinator of the University of Wisconsin Television Laboratory, submitted five proposals for research in ETV to the ETRC. The proposals were approved the following month, and in September Barrow and Westley were assigned to proposal three, which had as its purpose a desire to "conceptualize a more basic theory of significant factors in the 'effectiveness' of educational television production techniques." Although this was designed as a TV study, it was decided to survey sound motion picture research as well for two reasons:

1. Television and movies are both audio-visual media.
2. The newness of television made it unlikely that there would be any sizeable amount of material available.

The purposed research fell logically into four parts:

1. A literature search for pertinent studies.
2. A tentative exposition of a theory.
3. An ordering and summary of the

the pertinent studies in accord with the tentative theory.

4. Revision of the theory and a reordering of the summary.

Criteria for selection of a "pertinent" study were:

1. Only studies involving communications to a group were included.
2. Studies involving non-electronic communications, such as that of a public speaker and his audience, a teacher in a classroom and her students, were excluded.
3. The message must have been conveyed via an audio-visual medium.
4. Only those studies in which internal film elements were varied were included.

A six-month literature search turned up forty-one studies which met the above criteria. Of these, only seven involved communication via television. The seven TV studies and the thirty-four sound motion picture studies are summarized separately in the appendix.

On the basis of a review of the relevant empirical and theoretical literature a limited and tentative theory of the effectiveness of television and other audio-visual communications has been developed. The theory states that communication effectiveness depends upon coping with interferences which distract attention and interferences which mask messages. The communicator copes with the former by maximizing the *relative potency* of the message and with the latter by maximizing the *relative comprehensibility* of the message. Relative potency is the degree to which a message is capable of attracting and holding attention; relative comprehensibility is the degree to which a message is understandable to the receiver. These concepts are treated as inter-dependent; however, relative potency is understood to be a necessary condition for relative comprehensibility (some de-

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Series III: Bibliography

II. Closed Circuit Television Installations in Educational Institutions

Report of a survey conducted by the Joint Council on Educational Television and the Committee on Television of the American Council on Education, Washington, D. C., July 1958. 39 pages, tables, bibliography.

This report summarizes the replies to a questionnaire sent early in 1958 to accredited institutions of higher learning and to elementary and secondary schools known or reported to have closed circuit television installations. The installations listed are believed to represent the large majority of closed circuit systems now regularly used (or about to be used) for educational purposes. Some of them are employed for instruction *in* TV and other uses, rather than for instruction *by* closed circuit TV.

Class instruction over these systems ranges from first grade through college postgraduate, and the tabulations show the wide range of courses and subjects covered.

The report contains the following information:

1. Educational institution and office or department responsible

for TV operation, broken down by states.

2. Origination points—studios, class rooms or labs.
3. Equipment—image orthicon cameras, vidicon cameras, film and/or slide chains.
4. Reception points—buildings, class rooms, labs, total number of TV sets.
5. Other equipment and comments.
6. Subjects taught by closed circuit television—course title or subject, grade or academic level, number of students.
7. Courses in television, other uses of closed circuit system, reports available, and remarks.

The list includes 133 closed circuit systems used by 119 educational institutions and also closed circuit systems used for instruction and training purposes at 21 military installations.

The report consists of one large table showing the above information.

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Series IV: Audience Studies

18. A Study of the Educational Television Viewer in the Area of Lincoln, Nebraska

By Donald Eugene Montgomery. (University of Nebraska, Spring, 1958. 80 pages plus tables, Bibliography, and appendices.)

This study is a follow-up of *A Study of the Educational Television Viewer* in the KUON-TV Area conducted by C. E. Flick in the spring of 1957 (see *NAEB Journal* February 1958.) The present study was conducted in the spring of 1958 under a grant from the Educational Television and Radio Center. Essentially, this follow-up study is a comparison of interviewees with themselves a year later.

The purposes of this follow-up study were the following:

1. To determine what differences, if any, exist in preferences of viewers for educational television programming.
2. To determine what differences, if any, exist in viewing constancy and reasons for viewing.
3. To determine what differences, if any, exist in opinions on the quality of production.

The survey method was used in gathering the data. Techniques used were:

1. The personal interview for follow-up items.
2. Aided recall for items involving

educational television program identification.

The questionnaire was the survey device.

Conclusions:

1. There has been an increase of 33% in the number of individuals who view educational television. Part of the explanation may be KUON-TV's initiation of night-time ETV programming last November.
2. There has been an increase of 75% in the number of individuals viewing most recent ETV programs on a non-commercial station (KUON-TV).
3. There has been an increase of 36.5% in the number of individuals in a household viewing educational television.
4. There has been an increase of 44% in the number of children in school grades 1-9 and 22% in grades 10-12 who view ETV.
5. There has been an increase of 28% in family viewing of ETV on Tuesdays, with a decrease of 64% in family viewing of ETV on Sundays. Family viewing of ETV throughout the rest of the week is rather evenly distributed.
6. There has been an increase of 48% in the number of individuals who prefer night-time ETV programming.

Recommendations:

1. It is recommended that other follow-up studies similar to this be conducted in the field of educational television audience research.
2. It is recommended that other "perspectives" similar to *The Audience for Educational Television* (see *N A E B Journal* February 1958) be written to unify educational television research and help prevent the possibility of duplication.
3. It is recommended that findings of this study be applied to future educational television programming policies of KUON-TV.

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Series IV: Audience Studies

19. Seasonal Listening Patterns, Composition and Size of Summer and Winter Radio Audiences

Report of the Canadian Broadcasting Corporation, Audience Research Division, Ottawa, Canada, June 1958.

The data for this report were obtained from International Surveys Ltd.—partly from figures specially provided and partly from their report on *Seasonal Listening and Viewing Habits in Canada and Its Three Major Markets.* The method used by I.S.L. to obtain the above data is based on a continuous diary panel technique using 2,000 households reporting on programs and stations listened to for each fifteen-minute period of the day for a consecutive seven-day period in each month.

This report is divided into three sections as follows:

1. Summer and winter patterns of homes using radio by hourly periods during the day.
2. The number of people using radio in winter and summer and the number of listeners per set.
3. Composition of the audience in winter and summer.

Charts have been used to emphasize the main findings and tables have been included in the appendix of the report.

Summary of Main Findings:

1. The peak period of radio listening for men, women and children in winter and summer is between 12 noon and 1:00 p.m.

2. The main periods of listening during the period from 6:00 a.m. to 12 midnight were between 7:00 a.m. and 2:00 p.m., and 6:00 p.m. and 8:00 p.m., in winter and summer.
3. The number of radio listeners per radio home was higher in the evening than during the rest of the day. The number of radio listeners per radio home for the whole day was slightly higher in summer than in winter.
4. There was a reduction of about 26% in the average number of people listening to radio all day in summer as compared with winter. The heaviest reductions in listening occurred during the 7:00 a.m. to 12 noon period and during the 7:00 p.m. to 9:00 p.m. period.
5. More women than either men or children listened to radio at all periods of the day both in winter and summer.
6. More men listened at the meal-time periods and in the evening than at other times of the day.
7. More children listened in the 8:00 a.m. to 2:00 p.m. period and between 4:00 p.m. and 8:00 p.m. than at other times of the day.

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Editor's note:

The NAEB Research Fact Sheets are arranged so that they may be removed from the *Journal* by pulling out from the center staples. Each fact sheet is so paginated that it may be individually separated from the others.

gree of attention is necessary to any degree of understanding) whereas relative comprehensibility is not assumed to be a necessary condition for relative potency.

A number of implications of these basic relationships and some of their interactions are spelled out in a series of hypotheses which are in turn related to existing findings. Much work remains to be done in the way of clarifying the meanings of the concepts and testing the suggested hypotheses. It is hoped, however, that this provisional theory will stimulate experiments that will lead either to its acceptance, rejection, or modification—and in the process, to a better understanding of the process and effects of mass communication.

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Conclusion.

There is absolutely no evidence that College Composition is taught more effectively in the conventional manner than in the manner of the experiment described in this article; Composition was as well taught in television classes as in conventional classes.

Part II

The author suggests that college English teachers examine some of their "favorite assumptions" (small classes of about 20 students, 12 themes a term, etc.), separate fact from myth and then re-evaluate the results of the New York experiment. Before this is possible, more controlled experiments will have to be carried out, preferably on a national scale; this will represent progress toward the maxim of Matthew Arnold's Bishop Wilson: "First, never go against the best light you have; secondly, take care that your light is not darkness."

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2. Projects designed to improve the preparation of teachers.

   A. University of Minnesota. Closed-circuit television used to demonstrate effective teaching.

   B. Texas. A state-wide program offered over a network of 14 television stations in an effort to prepare liberal arts college graduates for teaching.

3. Projects designed to use college teachers to raise the standards of school instruction.

   A. Professor Harvey White, Vice-Chairman of the Department of Physics at the University of California, went to Pittsburgh on leave for one year to teach high school students a basic course in physics over television.

   B. State-wide programs carried on through the University of North Carolina, University of Alabama, and University of Nebraska.

On the basis of the evidence to date, the following conclusions can be drawn:

1. Students do at least as well when studying with television teachers as students taking the same work in conventional classes.
2. Many more students can have access to really great teachers through the use of television than is possible with the usual classroom arrangements.
3. Teachers can extend their services greatly by using television instruction.
4. Television can be offered at lower costs than regular classroom instruction.

However, there are still unanswered questions including the following:

1. To what extent can the greatest teachers throughout the world be made generally available to college students across the nation?
2. Given a very able teacher, what adaptations need to be made in his procedures to make them most effective in television instruction?

3. When courses on television are especially adapted to that medium, does such adaptation increase the learning of students as compared with lecture-blackboard conventional presentations?
4. What special skills are needed by students and teachers for effective use of television, and how can these skills be best developed?
5. What is the precise nature of learning from television, and does it differ from other learning?

Perhaps the major question to be answered is, "Given books by the best writers, and given television and films prepared by the best teachers, what additional kinds of experiences should a college or university provide in order to set up optimum conditions for learning?"

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Teach Parents About Teaching Children

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terials which might otherwise seem to bear little relation to their previous experience or interests.

Mr. Shayon concluded with a challenge to educational telecasters. The next step, in his judgment, is for educational telecasters "to teach parents about teaching children." This can be done by demonstrating effectively the various teaching methods currently employed by the most successful teachers. Programs of this nature, widely publicized to insure their viewing by interested parents and other citizens (especially critics of present-day education), would go far toward silencing destructive criticism by uninformed individuals who seem completely unaware of the progress in developing superior teaching methods which has taken place since the days of the "Little Red Schoolhouse." Is not this a real challenge to educational television? Would not education benefit greatly if the individuals responsible for programming educational television were to plan effective presentations of this nature?

—TRACY F. TYLER, *Editor.*

Reassuring the Reluctant

Continued from page 13

to a Camera," an educational television producer "is a man skilled in helping teachers transform those who are capable of learning into those who want to learn."

We'll pass over this learning period and look at some of the fears we teachers must face after we're actually *involved* in educational television: What will our colleagues think of us? Who will decide who teaches on TV and who remains in the classroom? Will we be stigmatized by the term "master teacher"? Will the prestige of large numbers compensate for removing us from our own class group with whom we exchange quips and sallies? Will having strangers recog-

nize us on the street be as rewarding as having a troubled teen-ager amble up to us and confidently request, "Can I have a man-to-man talk with you—can I, huh?"

Reassured that the rewards of television teaching are significant, we continue our series of lessons (or programs for those on the other side of the control room) and find ourselves seized by another fear. In the slang of the teen-ager, what's with this team business? If I am the studio teacher, am I to be deprived of the personal satisfaction of guiding young men and women through the thrilling experiences of learning? Am I to be so completely removed from students that I will become a coordinator or an administrator? If I am the classroom teacher, am I to be relegated to being the paper grader, the disciplinarian, the receptionist for irate parents, while the studio teacher enjoys the glamour, the excitement, the released time, and the extra pay?

When staff utilization reaches its ultimate; when, according to Dr. J. Lloyd Trump in his *A Look Ahead in Secondary Education*, we divide our teachers into professional teachers, paraprofessional assistants, clerks, general aides, community consultants, and staff specialists—where will I be classified? And you college professors . . . you, too, have cause to fear if you're not in the TV studio. You may be classified as the attender of conventions, the permanent athletic committee member, the writer of reports, or the graduate consultant. At least we're progressing. When I began this discussion, I was afraid I would be involved in television lessons (I refuse to say *programs*). Now I'm afraid I won't be.

Maybe that's the way the cookie crumbles. I'm not to be *involved*. I am to *utilize* educational television. I read the television columns in the *English Journal* and the *Saturday Review*, and other advance analyses of enriching contributions. I prepare a bibliography, I study the study guide, I select activities appropriate for the varying abilities of my seniors—and then I discover that the time schedule for the Chicago schools has no relation to the Evanston schedule. The fifth period class watches the first four minutes of "Ballads from the Middle West." They leave with a confused but patient acceptance of the teacher's most recent attempt at audio-visual enrichment. The sixth-period class watches the last four minutes (it took four minutes to change classes). I decide to watch a re-run the next night myself and tell both classes about "Ballads from the Middle West." It's simpler that way. Need I belabor the point that there is less than complete agreement among secondary schools as to their bell schedules?

Having dispensed so easily with the complications of bell schedules, the many fears that besiege a televising teacher, and the confusion in philosophy and purpose, I must not

neglect a most important factor: *time*. Even the NAEB has not been able to add more hours to the day. When do you prepare study guides? When do you confer with the curriculum specialist? When do you obtain feed-back from the classroom teachers? When do you prepare visual aids? When do you plan and write and rehearse and think?

Now, you and I know that *eventually* televised teaching saves time. Our librarian teaches a unit on books about India. During one forty-minute period she can talk by TV to the same number of English and Social Studies classes that she would normally visit in two weeks. I am excited about the time saved and improvement in the quality of teaching when four of our speech arts specialists share the planning and TV presentation of the units in our freshman survey course. You and I know that numerous research projects throughout the country indicate that time can be saved and teacher talent more efficiently redeployed when we use television effectively. Then why aren't reluctant teachers motivated by this? Don't they read the educational literature? Don't they study the research reported in their professional journals? My only answer is to remind you that teachers are human beings. The published research indicating the close relationship between smoking and cancer of the lungs did not stop you from smoking. Published research is not as yet sufficient to allay the fears of the already harassed teacher.

We are not opposed to new methods. We are not opposed to change. We agree with Henry Steele Commager's *Saturday Review* statement that "a dynamic society cannot stay dynamic if the existing order fixes the standards to which all must conform and into which all must be fitted. Schools are a part of society, but they should not be a complete mirror of society. They should offer not a repetition of experience, but a challenge to and an extention of experience. They are not a tranquillizer but a conscience for society."

We of the public schools are being challenged from all sides. We must equal the Russian progress toward goals we in a democracy dare not tolerate. We must increase our attention to the academic disciplines; we must develop greater appreciation of the humanities; we must provide economic education for realistic adjustment within our capitalistic system; we must build character, develop moral and spiritual values; we must teach safety education and health education. We must train a democratic, articulate, responsible citizenry; and at the same time we must continue to grow professionally, to keep our own minds alert and responsive, to enrich and broaden our own outlook that we may lead others. To be a teacher in 1958 is a thrilling, demanding experience.

We of the teaching profession

are proud of the confidence placed in us. We accept the challenge you place before us. We will become *involved* in program planning and we will *utilize* the opportunities of educational television in spite of the complications of time and scheduling. We ask just one bit of reassurance.

A wise English schoolmaster once said: "A master in the art of living draws no sharp distinction between his work and his play, his labor and his leisure, his mind and his body, his education and his recreation. He hardly knows which is which. He simply pursues his *vision of excellence* through whatever he is doing, and leaves to others to determine whether he is working or playing. To himself he always seems to be doing both. Enough for him that he does it well."

There will be no problem in involving teachers in program planning or utilizing educational television as long as you can prove to us that there will be no blurring of this vision of *excellence*.

Our New Electronic Culture

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to assume priority over the processing of the young in our present institutions of school and college, we are in the presence of one of the most astonishing developments in human history. How anybody could find cause for despondency in such a situation is hard to guess.

Yet let us recall that Cadmus, to whom antiquity gave the credit for introducing the phonetic alphabet into Greece, was held to have sown the dragon's teeth that sprang up as armed men. Writing on paper made possible the control of armies at a distance. Paper and writing destroyed the city states of Greece and led to empires.

The medium is the message. Let us grant that, for the moment. It follows that if we study any medium carefully we shall discover its total dynamics and its unreleased powers. It was more than a century after Gutenberg before Montaigne discovered the artistic and psychological meaning of print. He showed us its power to snapshot the individual mind in all its postures. Edgar Poe, a newspaper man, was the first to reveal the artistic meaning of the electronic media. He foresaw that the instantaneous movement of information ended the regime of the editor as the producer of meaning in the news for his readers or consumers. Poe, a second Leonardo da Vinci in the eyes of the French, saw that the new age made the audience co-creator. His detective stories and symbolist poems were the first in which the reader is co-author. And

ever since then, in the arts and in the mass media alike, the entire dynamic of electronic forms has been to make the consumer the producer, until today we stand on the edge of reverse broadcasting.

But is it not this very shift in our society which makes the young so resentful of an educational establishment in which they are consumers only? They live with a technology which insists that they be co-producers in the very act of learning. They experience only a negative motivation with regard to a curriculum which ignores the undeveloped countries of our minds and which looks on the new media as the source not of culture but of trash.

The challenge of the new media is total. We must face them on their own terms as new mother tongues and not as more vulgar forms of the old message. The young today learn the languages of the new media as they learn English. That is, they respond totally to these complex forms which we have ourselves created. Thereafter they are given no assistance or encouragement to make these forms an articulate and conscious part of our total culture.

When print was new, it made new media of the old mother tongues. Soon the educators had to reverse their traditional procedures. They began to teach Latin in the vernaculars and soon found that the vernaculars were a richer source of nutriment and expression than scholastic Latin had ever been.

Today our natural temptation is to regard the new media as aids to or distractions from the older studies. We have not dared to see them as themselves, new art forms which can become direct objects of study.

In his *Film as Art*, Rudolph Arnheim notes: "The history of human ingenuity shows that almost every innovation goes through a preliminary phase in which the solution is obtained by the old method, modified or amplified by some new feature."

For us to do this with press, radio, and TV would be fatal to our earlier achievement in writing and print, because it leaves the dynamics of the new media untrammelled license to disintegrate our existing values. If one lesson has emerged in recent decades, it is that the Ivory Tower of the artist has become the Control Tower of society. Only by exercising the fullest artistic awareness of these vulgar forms can we maintain the integrity of the earlier forms. Commerce has been beforehand in accepting the aid of artistic vision and intuition in all fields for setting up immediate commercial and technical strategies. Today the top artists in painting and poetry have given their utmost attention to the meaning and value of the new media to the highest artistic endeavors. And they have said, "It is from now on a do-it-yourself world. The older consumer strat-

egies of culture will destroy you."

The *3 R*'s are not the answer to Sputnik. The Soviets have intact a 1000-year-old oral culture against which to bounce their new *3-R* program. We have scarcely any oral tradition, but we have completed our *3R* program just as we swing for the first time into an oral age. Naturally we are reluctant to retool the whole educational plant. So we are trying to bounce the wall against the ball. But the mass media or simultaneous media have a very great message for us all, which has not been heard or felt before. And since the media and our problems are one, we have either to decipher the meaning or be clobbered by it. Total failure to understand these media permits radio in the Near East, and movies in India, where they are like fire-water for the Redman.

In our own lives the new media open up large undeveloped countries in our minds which call for much greater programs than Point 4.

We *could* persist in misinterpreting the scale and significance of these media. We could be the first to sell out the electronic age for a pot of printed message.

Educational Radio's Role

Continued from page 6

necessary because they would initiate the action themselves.

We receive letters of a kind that are genuinely touching: one stating that, "If I had but a year to live, I would wish to do it as I have done this past year, listening and learning from you"; another from a listener on a sickbed, initiating a campaign of letters to every newspaper in the state; yet another from a youngster saying, "As a part of the Christian's citizenship requirements for the God and Country Award in Boy Scouting, for which I am working this year, I would like to distribute some pamphlets in my community telling about your radio programs."

This is the kind of evidence we get, the response we find. I think these can be explained in terms of the inherent characteristics, the built-in advantages, of radio. Let me name several of these. First of all, radio is everywhere. Radio is omnipresent, all-pervasive, so much so that the Census Director, I understand, has decided not to include a question about radio in the next census. We now take radio for granted as a factor in American life, and no longer are curious about how many homes have how many radios. This, I think, is a mistake; the census

ought to include information about radios. But some 130 million sets are in use, we are told.

In Wisconsin we have people who can be reached in no other way. I called the Information Director of the Motor Vehicle Department the other day to try to find out how many persons are travelling our highways at any given moment. He said, "I can't tell you that exactly, but there are roughly 850,000 motor vehicles in operation between eight and six on an average day in our state." Most of these, you know, are equipped with radio. How else are you going to reach the people whose business it is to travel about the state, engaged in selling, in field work, and in many other kinds of activities? These are among some of our most enthusiastic and grateful listeners. They could be reached in no other way.

The 650,000 elementary school children in the state: who thinks for one moment that they can be reached by television any time in the foreseeable future? It has taken twenty-seven years to reach a little more than a third of them by radio, involving an average expenditure of $40 or $50 per classroom. And the sheer logistics of getting schools equipped with television will delay the day when we can reach a majority of these children through that means.

The busy housewife who has other things to do can be reached only by radio. The clergyman contemplating the state of affairs in the world today, and preparing his sermon for the following Sunday, will, I think, not be found seated in front of his television set. But hundreds of clergymen in Wisconsin are regular devoted listeners to our radio broadcasts. And we like to think that their Sunday sermons reflect in some way the added information, knowledge and understanding they are gaining by radio.

Those were all illustrations of radio's first and biggest advantage, its pervasiveness. But a second advantage is that r a d i o is q u i c k, responsive, and adaptable. An idea can be translated into a broadcast almost instantly. A teacher's advisory committee can decide that for some particular purpose in strengthening the curriculum, we need such and such kind of service on the air. And the following week or month, a program can go on, illustrating that. Yes, radio is quick, it is responsive, it is adaptable.

And third, it is economical. It is extremely economical considered in terms of cost per contact. I need not amplify that, I am sure.

And fourth, it is intimate. Mr. McLuhan spoke of how radio has become an individual companion. Let me illustrate that. One of our broadcasters, a lady who does a series in creative writing for children in the elementary schools, a couple of months ago did a program called "Your Two Cents' Worth," in which she invited the

children to express themselves candidly to her. And they did, believe me. Perhaps best illustrating the intimacy and the directness of the relationship between broadcaster and listener was one letter from a boy who said, "Dear Miss Applegate: I like the man on the program better than you. How are you feeling? With love, Richard."

The same quality of intimacy, is I think, reflected in this kind of response. "Dear Friends: So must I address all of you who work there to produce what, to me, are priceless gifts every day, gifts of a kind that could come only from people who are spiritual and intellectual friends, though I have met only one or two of you face to face."

Radio is an intimate medium. We ought to cease thinking about it as an instrument of mass communication. Television, I believe, can also become an intimate medium, but it has rarely achieved the possibilities of its intimacy in the examples I have so far seen.

Finally, radio is the instrument of the spoken word, and though this may seem at times to be a disadvantage, I believe it is one of radio's greatest inherent merits, because it compels concentration upon content. We need constantly, I think, to remind ourselves of the word, because only through the word can we convey shades of meaning, ideas and concepts of a certain kind.

Look at the cover of *Life Magazine* for May 26 of this year, and you will see a vivid and dramatic illustration of the power of the picture. It is shocking; it tells you in a flash what happened to Nixon in South America; for here are shown two angry Latin Americans kicking in the side of his automobile, while the shattered glass of the car shows that it had also been stoned. Instantly you get a picture of what took place, but absolutely no understnding of why. You turn inside to the text to get a little historical background on this outburst. And the words outline the history of events leading up to the demonstration.

In some areas, I am convinced, a picture limits the action of the mind and the imagination, and hinders understanding. We have found this to be true in the field of creative art, and I could detail our experiences there. They demonstrate conclusively that where you want creative expression in the field of art, you do not use a picture, because instantly the imitative instinct goes to work, and you get not originality, but imitation. I say again, the word is the conveyor of ideas and shades of meaning and concepts which can be conveyed in no other way.

We need to remember, from the Gospel according to St. John, that "In the beginning was the Word"; and radio is the instrument of the word.

I think all of these character-

istics and these capabilities are embodied in our present radio planning, which found expression in our submission of two new program proposals to the NAEB Grants-in-Aid Committee this spring. One is a program for children in the intermediate and upper grades, called "The Lives of Man." It is to be part of a series which began with the award-winning program I mentioned earlier, called "When Men Are Free." The second, on which we are currently working, is called "Footsteps of the Free"; and now there is to be this third one, "The Lives of Man," designed to give the children in these grades some knowledge and understanding of the major cultures of the world, and their bearing upon the lives of American boys and girls.

The second proposal is for an adult program to be called "A Light unto My Feet," an examination of one of the sources of our basic concepts and aspirations.

These, it seems to me, embody the potentialities of the medium. They reflect the results of our nearly forty years of experimentation in radio broadcasting. They reflect the convictions and aspirations of our current program staff, and I believe they help to give some promise of what radio can do if we continue to use it as an educational instrument.

I believe we must. If we neglect radio in our enthusiasm for other tools of education, we risk the loss of time, money, manpower, and great opportunity.

And I believe, finally, that for speedy, economical realization of many of our educational goals, we must continue: first, to have faith in the power of the spoken word, and second, to use radio as an effective and indeed an essential instrument of education.

What Is the FCC?

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These commissioners have the legislative authority to take actions, make rules and regulations, and issue such orders, not contrary to law, as may be necessary to carry out their functions, and may conduct Commission proceedings in such a manner as will best conduce to the proper dispatch of business and the ends of justice.

Originally, the FCC staff was organized along departmental lines, with the Secretary, General Counsel, Chief Engineer and Chief Accountant heading up the various departments. The Commission, however, began a reorganization of its staff in 1950, which was completed in March, 1952, providing a functional setup, with four bureaus and nine staff offices.

One of the most important of these is the *Broadcast Bureau.* The work-load of this unit is distributed among five divisions, and consists of these main functions: (1) pro-

cessing applications for broadcasting stations; (2) participating in hearings involving applications and rule-making proceedings; (3) studying frequency allocations and drafting plans for their use in the broadcast services; (4) studying and establishing technical requirements for broadcasting equipment; (5) participating in government, industrial, and international conferences concerning broadcast services; and (6) making recommendations to the Commission concerning promulgation of broadcasting rules and standards, as well as recommendations relating to other functions mentioned.

For every station broadcasting to the general public, there are eighty-five more providing other special services. It is the main function of the *Safety and Special Services Bureau* to issue authorizations for these many and varied radio operations. It also initiates rule-making proceedings in this area, studies frequency assignments and technical requirements for equipment, and participates in international conferences and collaborates with other governmental agencies and industry groups interested in the problem of safety and special radio services.

Another important phase of the Commission's work is handled by the *Field Engineering and Monitoring Bureau*. This unit, consisting of four divisions, has seven regional and twenty-four field offices and eighteen monitoring stations, located in major cities in various parts of the country and in Hawaii and Alaska. It is responsible for all engineering activities in the field relating to radio stations, including station inspections, monitoring, direction finding, signal measurement, and investigation.

The Bureau also administers and enforces rules for commercial radio operators, and conducts examinations and issues licenses to these operators, processes data to determine whether proposed new or modified antenna structures will create hazards to air travel, and participates in international conferences relating to communications.

Matters pertaining to the regulation of rates and services of telephone and telegraph companies over which the FCC has jurisdiction are handled by the *Common Carrier Bureau*. This bureau is also concerned with the granting of licenses to these companies for their many wire and radio operations.

All of these various bureaus are served by the *Office of Hearing Examiners*. In 1946, Congress passed the Administrative Procedure Act, which, among other things, provides for the appointment of hearing examiners in the FCC and other Federal administrative agencies. Under the provisions of this act, these examiners preside at and conduct adjudicatory proceedings assigned them by the agency, and issue initial decisions. They are appointed subject to the Civil Service laws, and cannot be

removed from their offices except for good cause established by the Civil Service Commission after opportunity for hearing. Their functions are separated from those of other units in the Commission, and, except in certain *ex parte* matters, they are not permitted to consult with any person or party on any factual issue in a hearing unless upon notice and with opportunity for all parties to participate. They may not be supervised or directed by any officer, employee, or agent engaged in the performance of investigative or prosecuting functions. In other words, they serve in a judicial role, and are completely independent in the preparation of their opinions.

The administrative affairs of the Commission are planned and directed by the *Office of Administration*. The Executive Officer in charge is responsible to the Chairman of the Commission, and cooperates with other units in the agency in the planning and development of administrative procedures.

The *Office of Chief Accountant* is concerned with accounting rules and principles which must be observed by industries which the Commission regulates, and the formulation of a uniform system of accounts and annual report forms for these industries. The *Economics Division* of this office compiles economic data, and cooperates with the Bureaus in the preparation of economic reports on the condition and status of industries subject to the Commission's jurisdiction; studies the social and economic factors affecting communications; provides technical advice and assistance to the staff and the Commission on statistical aspects of questionnaires, sampling, economic trends and statistical methods; and serves as a clearing house for the staff on sources for obtaining pertinent economic data from within the Commission and from governmental and private organizations.

The *General Counsel* represents the Commission in all litigation matters, and, among other functions, advises the Commission with respect to proposed legislation concerning communications; he assists in the preparation of Commission reports to Congress, and interprets general procedural rules of the agency, as well as statutes, international agreements and regulations affecting its operation.

As required by Section 5 of the Communications Act as amended in 1952, a review staff has been set up in the Commission, known as the *Office of Opinions and Review*. The main function of this office is to prepare for the Commission summaries of evidence taken at adjudicatory hearings. Congress was concerned that this "review staff" be an independent group, able to perform accurate and objective reporting functions, and with this end in mind, provided in the law (1) that it should be directly responsible to the Commission and not a part of any bureau or divisional organization thereof; (2) that none of its work should

be supervised or directed by anyone other than a member of the review staff whom the Commission would designate as head of such staff; and (3) that no employee not a member of the review staff should be allowed to perform any of its functions.

The *Secretary* of the FCC has the responsibility of signing all official correspondence and documents of the agency, receives and records incoming and outgoing mail and maintains control correspondence files, keeps minutes and records of Commission actions, maintains dockets of all hearing proceedings, and has charge of library materials and facilities.

An important source of information for members of the public is the *Office of Reports and Information*, which is responsible for releasing public announcements of the Commission. It prepares and makes available to the press, industry, educational institutions and the general public, informational materials and publications, including annual reports, relating to the Commission and its activities.

Work-Load and Resources

The Commission is given the authority, subject to Civil Service laws, to appoint staff personnel as necessary to carry out its functions. To provide for these personnel services and pay the costs of rent and supplies, the Commission is authorized to make expenditures out of available Congressional appropriations.

According to its 1957 report to Congress, the Commission operated that year with an appropriation of about $7,800,000 and 1,197 employees. This was about six times as much money and three times as many personnel as it had in 1934-35, the first fiscal year of its operation.

Broadcasting activities during the past few years have expanded rapidly and enormously. From July 1, 1956, to June 30, 1957, the Commission received the greatest number of applications for spectrum space in any of its twenty-three years. As of the end of the 1957 fiscal year, the Commission had made almost two million broadcasting authorizations of all types, 200,000 of which were made during that year. With a comparatively small staff, the agency has encountered difficulties in handling its ever-increasing work-load. As pointed out by a former Chairman,

"Despite a work-load that has doubled and become more complex in the past few years, the Commission personnel remains numerically unchanged and over-worked. Only by 'robbing Peter to pay Paul' can it tackle 'must' matters at the expense of mounting backlogs of routine. In consequence, it has had to curtail certain activities—particularly in technical and field engineering matters—in order to meet pressing current problems and keep from being buried by its piling backlogs."

TV and Higher Education

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Sometimes, too, the mass media might unfortunately go counter to what the school and home have painstakingly taught. But the possibilities for the distribution of excellence are there. But, here too, we must not be misled by averages. Schools are not nearly alike. In one elementary school in Columbus, for example, the enrollment in the autumn of 1955 was 325. In June the enrollment was 323, but not one of the children on the roll in June had been there at the beginning of the year. The teachers in this school have a wholly different problem from that of the teachers in relatively stable neighborhoods. An example of needed articulation lies in the current discussion about science and mathematics. Last year in Ohio the principals and senior English and mathematics teachers from about 100 representative Ohio high schools came to our campus to discuss mutual problems with members of our related departmental faculties. Agreements were made, printed, and distributed to all of the high schools of Ohio. A similar conference on science teaching has also been held. In commenting on this program, Vice President Frederic Heimberger recently said to our faculty, "These are not crash-programs . . . they are not dramatic and they will not produce results over night. But they are soundly based and offer hope for real improvement in the years ahead."[1]

There is another aspect of continuity of learning which we usually neglect in university and college discussion. It is the continuity which bridges the gap between graduation from high school or college and continued learning afterwards. There are two kinds of learning that need discussion. There is first the learning required by the citizen as he meets problems of family and community life; becomes an intelligent consumer of radio, television, the press; learns to think clearly and act wisely about local, national and international problems; and becomes a participating citizen. James B. Conant in a recent speech before the National School Boards Association in Miami Beach (April 18, 1958) said, "The development

1/ Address of Dr. Frederic Heimberger to Ohio State University Faculty, May 1, 1958.

of an understanding of democracy seems to have been forgotten by most of the critics of the public schools who have spoken in recent months. Yet, to anyone who has pondered on the extinction of democracy by the Nazis in a highly educated nation, the objective must loom large. We would do well to recall, at this time of excitement about applied sciences, that attitudes developed in the schools determine to a considerable degree the nature of the society a few years later."

There is also the continuous learning needed in one's profession. As evidence of this need, you may be interested to learn that more than 33,000 people per year return to The Ohio State University campus for short courses, conferences, workshops, symposia, etc. A system of decentralized continuing education is growing into a large and important venture at our institution, as it is at many other colleges and universities throughout the country.

I am sure that you see as I do the immense possibilities of television as an aid to the professional worker. Salk vaccine was introduced to the physicians of this country by means of closed-circuit television. At the recent Institute for Education by Radio-Television in Columbus, there were many illustrations of this kind of professional continuity between universities and professions. The community station KETC at St. Louis, for example, recently used its facilities for bringing new ideas to some 1200 dentists in that community. Since this was on the air, it is likely that their patients picked up some good points too. More experimentation in the field will be welcomed by all of us who must be sufficiently resourceful to find improved ways of disseminating the new knowledge which is indispensable to the productiveness of our professional people.

There is and will be closer linking of all educational agencies. We also need better linking of the school and college units themselves. Did you ever reflect on the waste in education caused by inadequate integration and articulation between its various units? On our campus we have begun to think hard about better articulation between the public school system—elementary and secondary—and the University. I am sure you will see here the implications both for preparation of teachers and for in-service education. The state networks already developing in educational television can be very fruitful as fore-runners of the kind of integration and interconnection needed to connect all the educational facilities of a state or region.

ISSUE No. 3 *The size and nature of classes*

In what size and kinds of classes can we most intelligently communicate the ideas, the understanding, the attitudes considered important as part of the education of

the typical man and of the specialist? Wise use of television depends upon getting a firm answer to this question.

It is easy and true to say, "Well that depends." But administrators do need specific guidance from research and from sophisticated observers as to what results are secured under varying conditions of class size and for varying kinds of objectives.

President James Garfield thought that Mark Hopkins of Williams College on one end of a log and a student at the other was a good class size. It is not practical at The Ohio State University for me to sit down and converse with each of our 22,500 students, but it would be a depressing situation if our students at Ohio State did not have the opportunity to engage in friendly conversation with our professors. Emerson put it this way: "Two may talk and one may hear, but three cannot take part in a conversation of the most sincere and searching sort."

In the study of the Department of Agricultural Education to which I just referred, these students rated as least adequate the guidance facilities and services provided them. They wanted more conferences with faculty members outside the major department. They wanted more discussion of career opportunities with major advisors, and they wished more guidance stemming from college and university channels. In short, they want the "personal touch" and feel of the warm exchange of ideas between student and teacher, and the stimulation that comes from the direct influence of a creative and resourceful mind. Should we try to provide this relationship? Can educational television be used to create time for this student-to-professor relationship, or will it further increase the physical and psychological distance between students and instructors?

We can have such conversations if we are willing to think through the role of duplicated explanations and demonstrations—duplicated by print, by voice and by picture. We write textbooks and present explanations not just for one student at the end of a log, but for thousands of students. The authors of these books plan to have their explanations so clear that they do not need extensive explanation by an instructor—amplification and further analysis, yes, but re-explanation, no.

I see no reason why we cannot have televised, filmed, or voice-recorded explanations which meet some of the subject-matter needs of 100 or 200 or 1,000 students. What do I mean by *some* of the needs? Here we must turn to the research studies on films and on television. The studies at Miami University in Ohio show that college students become progressively disenchanted with television as a method of teaching. Just why this is so is, I believe, under study there. I venture two hypotheses.

First, all of us crave the personal element in teaching. If we could have our choice, most of us would like to sit down in seminar fashion with 10 or 15 other students in the presence of the world expert in some field. But this is not the best way to use the expert's time. I should pause here and say that one of the great teachers of all time and the author of *The Republic* disagrees. Plato had Socrates say to Phaedrus:

You know, Phaedrus, that's the strange thing about writing, which makes it truly analogous to painting. The painter's products stand before us as though they were alive; but if you question them, they maintain a most majestic silence. It is the same with written words: they seem to talk to you as though they were intelligent, but if you ask them anything about what they say, from a desire to be instructed, they go on telling you just the same thing forever. And once a thing is put in writing, the composition, whatever it may be, drifts all over the place, getting into the hands not only of those who understand it, but equally of those who have no business with it; it doesn't know how to address the right people, and not address the wrong. And when it is ill-treated and unfairly abused it always needs its parent to come to its help, being unable to defend or help itself (Plato's *Phaedrus*, Transl. R. Hackforth, Cambridge University Press, 1952, p. 158).

Here we are up against several issues wrapped up in one bundle. It is the problem of interaction versus passivity, of the degree of personalism in the relations of students and faculty. And we cannot solve it by statistical ratios of faculty to students, which conceal, as I observe the operation of a university, as much as they reveal.

Can we use educational television in such a way that the professor becomes even more personal and personable than he is now? How can we make sure that we do not introduce a stereotyped mass education which may be temporarily efficient but spiritually sterile? By having some classes bigger, we can have some classes smaller. This leads to a related problem. Let us call it self-teaching or self-instruction, a basic element in the test of a truly cultivated mind.

One goal of all teaching is to develop the mature, independent learner. Knowledge has become so vast and is increasing so fast that abstracting services in many fields of learning are a necessity. Some of you may know that our campus houses "Chemical Abstracts," which each year abstracts articles and books. Bibliographies of bibliographies are a commonplace.

Is it not inherent in the educative process that we help the student find his own way, chart his own life, learn how to learn and to have a desire for continued learning? So self-teaching and self-instructing are a necessity. Here, I believe, there is merit in limited

numbers of presentations to large classes.

These well-planned presentations can be followed, as lecture classes often are, by smaller classes where interaction is possible. But let us not forget that the student must learn how to meet his learning problems alone, without the guide and mentor at his elbow all the time. He must be weaned from too frequent feeding and learn to feed himself. Television may have this potential, but I have not yet seen the full evidence.

We are still in the early stages of learning how best to combine film or television or recordings or readings in masterful presentations or expositions of new ideas. Maybe our present patterns of hours and classes per week need change. I suggest that the concept of "briefing sessions," which will then enable students to pursue scholarly efforts alone in the libraries and laboratories, needs additional exploration.

ISSUE No. 4. *The proliferating and specialized curriculum*

I believe it was Beardsley Ruml who once said that the college president has lost control of the faculty and the faculty has lost control of the curriculum. I am sure that Dr. Ruml knows that no president ever controlled a faculty. (A good president has been defined as a man who has a faculty for getting his work done. A professor has been defined as a man who thinks otherwise.) And his second statement needs qualification. The faculty has lost control of the general curriculum for students and has tried to meet the pressing needs of our specialized society by more and more specialized courses. In spite of the intensive efforts of our Council on Instruction to hold the number down, we teach over 4,000 different courses on our campus. It is quite clear that we cannot continue adding course requirements and extending the time required to finish a curriculum.

The curriculum issue, therefore, must be faced in our colleges. It has been said that it is just as hard to change a college curriculum as it is to move a cemetery. (This, I presume, is because the dead have so many friends.) Irwin Edman has stated in "The Uses of Philosophy,"[1] ". . . in the classroom one's ideas harden into doctrines, one's insights into routines, one's doubts coagulate into neat, expoundable pseudo-clarities."

The point I am making is that we should not try to use educational television to put frosting on a stale cake, but we must look at the curriculum in the light of social changes and in the light of new tools of communication. If we are not careful we shall be so specialized, so fragmented, so proliferated, that our students will see neither trees nor forest—only lumber.

1. Edman, Irwin, "The Uses of Philosophy," p. 79

Successful education demands that there must be a certain freshness in the ideas dealt with. These ideas must be new or they must be invested with some novelty of application to present conditions. According to Alfred North Whitehead, "Knowledge does not keep any better than fish."

I have outlined a few of the issues in educational television which need further illumination. I have suggested that we need clarification of our definition of educational television, that we need to improve the continuity of learning, that educational television leads to a rethinking of the size and nature of classes. I pointed out briefly some of our proliferating curriculum problems.

One final word: As we begin educational television we must, of necessity, put our best thinking on the production of programs. But production must be balanced with consumption, an age-old American principle. In the field of educational motion pictures, there now exist excellent films at the elementary and secondary levels especially. But I am informed by specialists in this field that teachers need more guidance than they are now receiving in the use of these materials. Obviously this is an issue which needs attention in teacher education and among our teaching staffs. Indeed, each of the issues which I delineated suggests problems of teacher education. We need more emphasis on exemplary teaching in our colleges and universities, with a philosophy of "Do as I do" and less emphasis on the weak philosophical substitute of "Do as I say, not as I do."

Obviously, time does not permit full exploration of the potential of television as a tool in capturing for the teaching profession the talents of college graduates who did not prepare specifically for a teaching career. Tapping of this new resource of teaching personnel has begun in a number of centers throughout the country. I recall such an experiment in Texas two or three years ago, and have been informed that Harvard has offered such courses in its graduate school of education. Apparently these and other similar experiments are having some impact on the short supply; but the education of teachers is a profound responsibility and must not be treated lightly.

We must have the ingenuity to marshal all resources at our disposal in an all-out effort to put effective teachers in our classrooms—a task which becomes easier as we observe the increased interest on the part of the American people in restoring the economic status of the profession to its rightful place.

Richard T. Ely insists in his *Outline of Economics* that "There are two kinds of poverty—one of lack of goods for the higher wants, the other a lack of wants for the higher goods." I wish this conference success in meeting both lacks.

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